SONY

HD VideoDisc Recorder

HDL-5800

HDVS

High Definition Video System

As the market for the High Definition Video Systems has grown and matured, Sony has continuously expanded its HDVS product range to maintain its leading role in this field. The HDL-5800 HD VideoDisc Recorder represents another significant enhancement to this range of equipment. The HDL-5800 records a wide bandwidth HD video signal on an optical disc with optimum quality, in either still or continuous mode. Taking full advantage of disc technology, the HDL-5800 provides many convenient operational features, including single frame recording and fast random access. Its disc-based programs can be produced in-house, not only providing substantial savings in both cost and time, but also maintaining confidentiality of program content. Whatever the application—industrial computer-aided design, scientific visualization, simulation with the highest possible image quality, the HDL-5800 offers a new way of HD image handling, from program creation to presentation.

The HDL-5800—the VideoDisc Recorder that is broadening the range of HD applications.

Features

Superior Picture Performance

Long Life, Writable Media WHD-3AL0 & WHD-3AA0

The HDL-5800 makes it possible to record both still images and moving pictures with associated multi-channel sound onto an optical disc. Two alternative types of optical discs are available for use, depending on the application. With the WHD-3AL0, either a 10-minute length of moving video or up to 18,000 still images can be recorded on an each side of a disc using the CLV mode. The WHD-3AA0 is for CAV mode operation, holding a 3-minute length of moving video or a maximum of 5400 still images on an each side of a disc.

Wide Bandwidth

The HDL-5800 achieves the wide bandwidth of Y: 20MHz/P_B: 6MHz/P_R: 6MHz (line sequential chrominance), assuring superb picture recording quality. The detail in the reproduced images is maintained and clearly projected, even on a large screen display.

High Quality Picture

The alloy formation techniques used in the optical disc recording process assures the preservation of image quality over extended periods of time. Furthermore, the HDL-5800 employs a non-contact optical laser pick-up system for image playback, allowing the best possible picture and audio to be continuously reproduced without any quality deterioration.

High Resolution Black and White Mode

A black and white mode extends the bandwidth of the Y (Luminance) signal to 26MHz, providing a high resolution black and white picture recording capability. These black and white pictures can be stored together with color images.

Four Digital Audio Channel

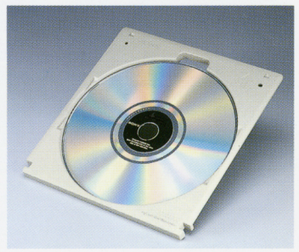
PCM (Pulse Code Modulation) recording has been adopted in the HDL-5800, with either two or four digital audio channels. Two channel recording provides 16-bit/48kHz linear quantization, while the four channel recording mode makes use of near instantaneous compressing and expanding techniques.

Operating Convenience

Single Frame Picture Recording and Playback Capability

In addition to recording and playback of continuous video and audio, the HDL-5800 provides frame by frame recording. Because of the disc based operation, pre-roll is not required with the HDL-5800, allowing a single frame to be accurately and easily recorded. Therefore, still images can be reproduced in sequence, facilitating a CG animation creation process. Both single frame and single field still playback is provided.

Compatibility with Read-only VideoDisc for the HDL-2000



Using the supplied disc tray accessory, a read-only videodisc stamped for a Sony HDL-2000 can be played back on the HDL-5800. This is a useful expansion of HD applications.

Quick Random Access

The HDL-5800 provides easy access to any image on a disc. In the CAV mode, any image on a disc can be accessed within 0.6 seconds, a feature which is particularly effective in presentation and interactive applications.

Frame Memory

Incorporating a frame memory, the HDL-5800 provides convenient operating functions, such as still frame and a seamless search mode.

•Random Search Operation

At the start of the search operation, the field memory retains the current picture and outputs it while the head is moving. When the required frame is found, the video output is switched from the memory back to the head, giving continuity to the output video signal.

•Slow*/Still/Step* Playback

Fast moving objects are sometimes blurred, particularly in slow motion or still modes. The frame memory allows the HDL-5800 to provide field by field slow, still and step playback, with minimum picture blurring.

*Field/Frame slow and step playback are available in the CAV mode only.

Variable Speed Picture Playback*

For rapid location of a particular image, and for slow motion operation, the playback speed can be controlled in both forward and reverse with the Jog/Shuttle dial. The speed range is from still to 30 times normal playback in the Shuttle mode and frame by frame to normal playback in the Jog mode.

*This feature is applicable in the CAV mode only.

Repeat Function

The repeat function enables an entire disc program, or a specific portion of it, to be continuously played back. Selection of playback sequence content and the number of repetitions can be made on the HDL-5800 control panel, the supplied RM-5800 remote control unit or from an external control unit connected via the RS-232C interface.

Interface Facilities

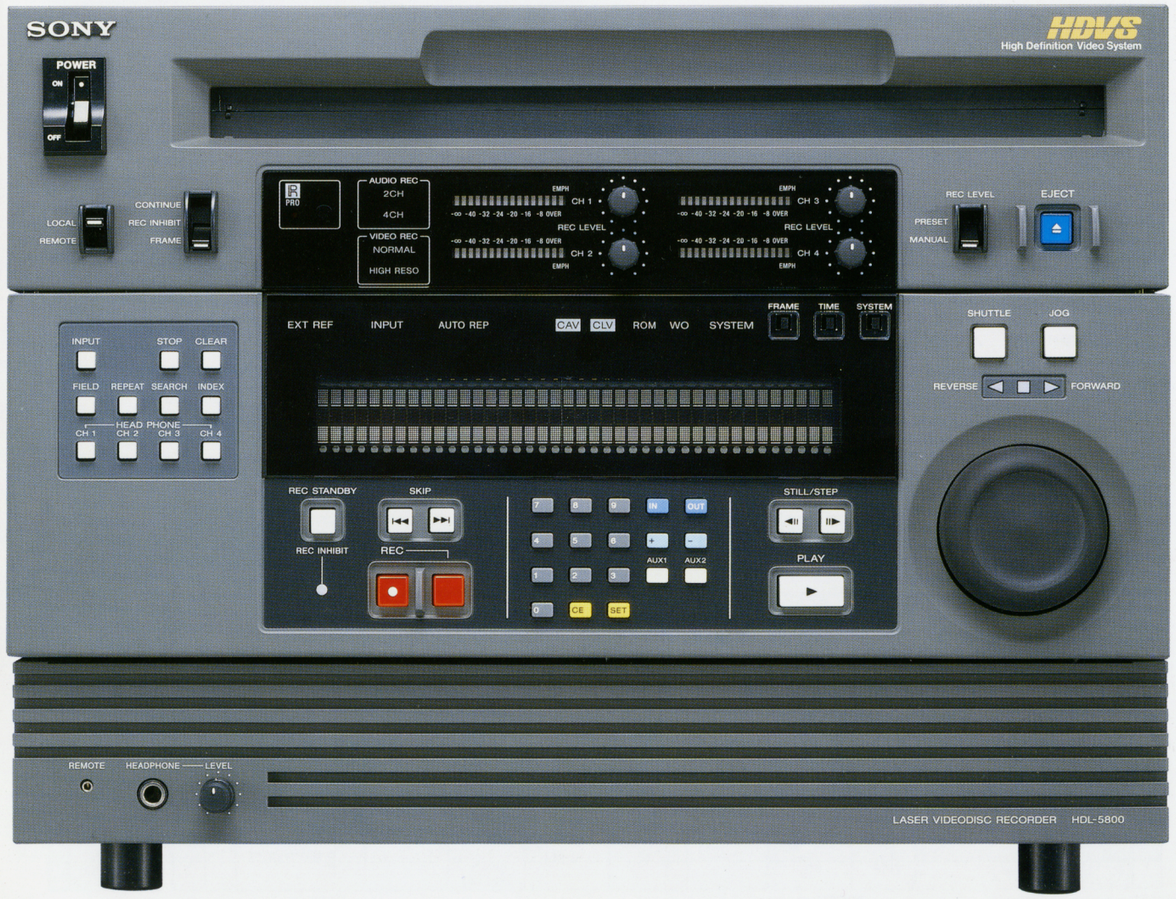
RS-232C and RS-422 Remote Interfaces

An RS-232C and an RS-422 interface enable the HDL-5800 to be remotely controlled from external equipment for customized recording and playback operations.

Audio I/O Interfaces

Analog audio I/O interfaces, both XLR and phono, are available on the HDL-5800 for flexible system configurations. The HDL-5800 is also equipped with a digital audio input interface conforming to the AES/EBU format. This allows the HDL-5800 to be directly interfaced to a Sony HDD-1000/HDDP-1000 HD digital VTR.

Front Panel



Specifications

GENERAL

Power requirements	AC 100 to 120/220 to 240V, 50/60Hz
Power consumption	Approx. 350W
Operating temperature	5° to 35°C (23° to 95°F)
Humidity	30 to 70%
Weight	Approx. 39 kg (85 lb 15 oz)
Dimensions	436 x 332 x 643mm (17 1/4 x 13 1/8 x 25 3/8 inches)

RECORDING/PLAYBACK SYSTEM

Recordingg mechanism	Alloy mode
Laser	Semiconductor diode laser (λ: 780nm)
Laser output power	35mW x 2
Videodisc	300mm (12-inch) CAV disc 300mm (12-inch) CLV disc
Maximum playback/recording time and frames	
	CAV: 3min/side, 5400 frames/side
	CLV: 10min/side, 18,000 frames/side
	Read-only disc CAV: 8min/side
	CLV: 15min/side
Spindle speed	CAV: 1800r/min
	CLV: 1200 to 3000r/min
Access time	CAV: 0.6s (full stroke average)
	CIV: 15s (full stroke average)

VIDEO

Signal standard	SMPTE 240M, BTA-S001
Video bandwidth	Y: 20MHz
	P_B/P_R: 6MHz (line sequential)
S/N ratio	Y: 42dB (WHD-3AA0/3AL0)
	Y: 41dB (Read-only disc)

AUDIO

Sampling frequncy	48kHz
Quantization	16 bits (linear)/sample (2-channel)
	12 bits (Non-linear)/sample (4-channel)
Frequency response	30Hz to 20kHz ±1dB
S/N ratio (dynamic range)	More than 88dB
Distortion	Less than 0.04%
Crosstalk	Less than –63dB
Head room	20dB
Emphasis	Analog input: 50µs/Flat (Automatic selection)
	Digital input: 50µs/Flat (ON/OFF, selectable)

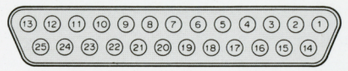
INPUT/OUTPUT SIGNAL

Video	
Input	
G, B, R/Y, P_B, P_R	1.0Vp-p, 75Ω switchable, loop-through BNC
Output	
G, B, R/Y, P_B, P_R	1.0Vp-p, 75Ω, BNC
Monitor	1.0Vp-p, 75Ω, BNC
Audio	
Input	
Analog CH1-4/1-2	–8dBs to +10dBs, balanced 600Ω/10kΩ switchable, XLR
	–15dBs to –5dBs, unbalanced 10kΩ, Phono
Digital CH1-4/1-2	AES/EBU format, XLR
Output	
Analog CH1-4/1-2	+4dBs, balanced, 600Ω, XLR
	–5dBs, unbalanced, 10kΩ, Phono
Headphone	8Ω, unbalanced, Phone

REMOTE

REMOTE 1 IN	For RS-232C interface, D-sub 25-pin (Female)
REMOTE 2 IN	For Sony 9-pin serial interface, D-sub 9-pin (Female)
REMOTE 2 OUT	For Sony 9-pin serial interface, D-sub 9-pin (Female)

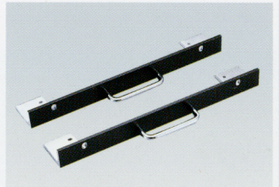
RS-232C Connector Pin Assignments



Pin No.	Signal	Description	Signal Direction
1	FG	Frame ground	—
2	TxD	Transmit data	HDL-5800 → external computer
3	RxD	Receive data	HDL-5800 ← external computer
4	RTS	Request to send	HDL-5800 → external computer
5	CTS	Clear to send	HDL-5800 ← external computer
6	DSR	Data set ready	HDL-5800 ← external computer
20	DTR	Data terminal ready	HDL-5800 → external computer
7	GND	Signal ground	—

Each signal conforms to RS-232C specifications.
(Output level ON: more than +5V, OFF: less than –5V)

Supplied accessories
Remote Control Unit RM-5800
RS-232C I/F manual
9-pin Remote I/F manual
Read-only disc tray
Rack angle (1 pair)
AC power cord
Operation manual



Rack Angle

RM-5800

Optional accessories
Laser VideoDisc Media for CAV mode: WHD-3AA0
Laser VideoDisc Media for CLV mode: WHD-3AL0
Programmable remote controller: RM-9000PR
Foot switch: FS-20

0dBs=0.775V.r.m.s.
Design and specifications subject to change without notice.
*HDVS is a registered trademark of Sony Corporation.

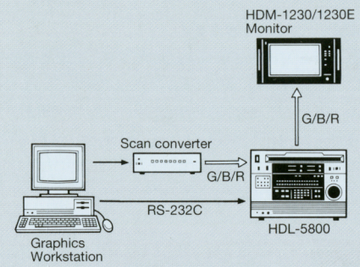
RS-232C command list

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	ENTER	INDEX ON	ADDR INQ								REC STANDBY*3	
1	COMPLETION			1	C.E.	INDEX OFF	CONTINUE									
2	ERROR			2	MENU		MOTOR ON	ROM VERSION INQ		REC PAUSE*3						
3	LID OPEN			3	SEARCH		MOTOR OFF	MARK SET								
4			AUDIO MUTE ON	4	REPEAT			EJECT ENABLE								
5	NOT TARGET		AUDIO MUTE OFF	5		FRAME NO. MODE		EJECT DISABLE								
6	NO FRAME NUMBER		VIDEO OFF	6		C.L.		CHAPTER NO. INQ*2							FRAME REC*3	
7	MARK RETURN		VIDEO ON	7			STATUS INQ								CONTINUE REC*3	
8				8					FRAME MODE			TIME CODE MODE			ASSEMBLE REC*3	
9				9			CHAPTER NO. MODE*2		FIELD MODE			EDGE RIGHT*4			REC*3	
A	ACK		EJECT	F•PLAY	R•PLAY*1	MEMORY						EDGE LEFT*4				
B	NAK		FWD-STEP & STILL	F•FAST*1	R•FAST*1	M. SEARCH						BLANK AREA SEARCH*3				
C			REV-STEP & STILL	F•SLOW*1	R•SLOW*1		LINE					CURRENT BLANK INQ*4				
D				F•STEP*1	R•STEP*1		DISC					NEXT BLANK INQ*4				
E				F•SCAN	R•SCAN							PREVIOUS BLANK INQ*4			BLANK SEARCH EBABLE*3	
F				STOP	STILL				DEVICE TYPE INQ						BLANK SEARCH DISABLE*3	

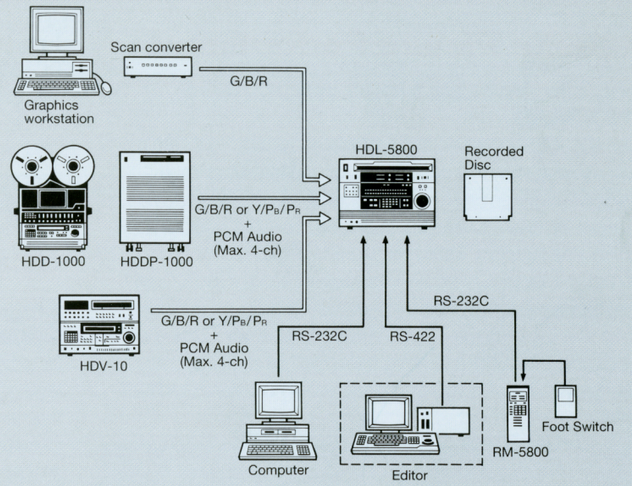
*1 Effective only in the CAV mode.
*2 Effective only when a read-only disc is played back.
*3 Not effective when a read-only disc is played back.
*4 Effective only when the WHD-3AAO is used.
Return code

System Examples

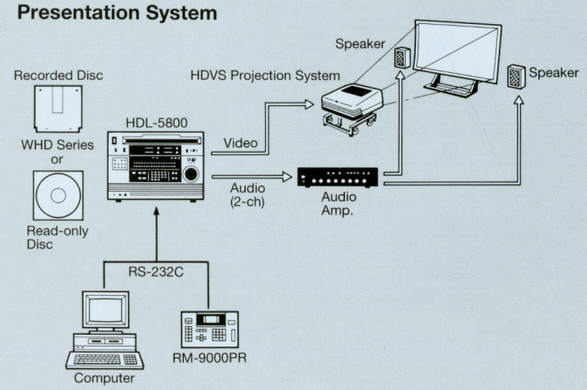
Computer Graphics Recording System



Program Origination



Presentation System



Rear Panel

Distributed by

HD-0002
MK2601HP9304P1-005

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